

## REMARKS

Claims 1-62 are pending in the application. Claims 1-62 are rejected. Specifically, claims 1-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Breese et al.

A paragraph in the specification has been amended to replace “base” with “based”.

The Office Action asserts that all of the elements and limitations of all of the claims are found in Breese et al. The applicants respectfully disagree.

Addressing first claims 1 and 32, the Office Action asserts that column 6, lines 38-43, column 7, lines 1-10, 31-36, and column 9, lines 11-15, 51-55 disclose “estimating a probability  $P(u|d)$  that the document  $d$  is of interest to the user  $u$ , wherein the probability  $P(u|d)$  is estimated by applying the identified properties of the document to the learning machine having the parameters defined by the User Model.” In column 6, lines 38-43, Breese, et al. discuss the probability that a user knows about an item, not that a document is of interest to a user. Lines 1-10 and 31-36 of column 7 of Breese, et al. similarly discuss the probability that user knows about an item. Interestingly, in lines 36-38 of column 7, Breese, et al. state, “In the illustrated embodiment, the higher the probability is, that the user already knows of an item, the lower the adjusted score and rank assigned to that item will be.” Hence, in Breese, et al., if an item has a high probability of being known to the user, then its score will be reduced. However, in the current application, the applicants are concerned with whether a document is of interest to a user. Specifically, on page 30 of the current application, the applicants state, “Positive examples are documents of interest to a user: search results that are visited following a search query, documents saved in the user favorites or bookmarks file, web sites that the user visits independently of search queries, etc.” Hence, positive examples of interest as understood in the current application, would be indicators that the user knows of the document and therefore would reduce the score in Breese, et al. Hence the basic

premises and goals of Breese, et al. are not consistent with those of the current application. This important difference between the knowledge probability disclosed by Breese, et al., and the probability that a document is of interest to a user in the current application appears to have been overlooked in the Office Action.

Column 9, lines 11-15 of Breese, et al. state, "The score can correspond to the entry's estimated, e.g. calculated, probability of relevance to a user's information retrieval request. Alternatively, the score may be an estimate of the value to the user of reviewing the entry." Note that the claims specifically require the estimation of a probability, and that this probability be estimated by applying the identified properties of the document to the learning machine having the parameters defined by the User Model. The current application on page 11 states, "All of the above features of Personal Web 12 are based on a User Model 13 that represents user interests in a document or product independently of any specific user information need, i.e., not related to a specific query." Hence the "user's information retrieval request" of Breese, et al. from column 9, lines 11-15, is definitely not a User Model, and the "estimate of the value to the user of reviewing the entry" of Breese, et al. is not a probability and is too vague to be considered a User Model. Hence, this element of claims 1 and 32 is not found in the cited reference.

The Office Action also asserts that element, "analyzing a document to identify properties of the document," is described in column 8, lines 15-26 of Breese, et al. The cited section of Breese, et al. do not discuss any analysis of documents and are irrelevant to the claim element.

Additionally, the Office Action asserts that column 7, lines 2-5 of Breese, et al. disclose, "estimating parameters of a learning machine, wherein the parameters define a User Model specific to the user and wherein the parameters are estimated in part from the user-specific data files." Lines 2-5 only state that a knowledge probability estimator is used to estimate the probability that the user already knows about the items. The parameters being estimated in the claim have nothing to do with the probability that the user knows of any specific items.

Finally, with respect to claims 1 and 32, the Office Action asserts that column 5, lines 25-38 disclose, "transparently monitoring user interactions with data while the user

is engaged in normal use of a computer.” The applicants assert that the cited passages do not specify nor imply that the user is engaged in normal use of the computer, nor that the monitoring is transparent. In fact, the cited passage includes obtaining information from questionnaire results, which are certainly not transparently obtained when the user is engaged in normal use of a computer.

The applicants believe that the significant differences discussed above between the claimed invention and Breese, et al. make the claimed invention novel and nonobvious. Because all other claims depend from either claim 1 or claim 32, the applicants believe that all pending claims are novel and nonobvious.

In addition to their dependency on claims 1 or 32, the applicants believe that the following dependent claims further distinguish from the cited reference.

The Office Action states that Breese, et al. disclose claims 2 and 33 in column 12, lines 44-55. However, Breese, et al. refer only to knowledge probability, not the probability that the documents are of interest to the user. As discussed above, these are very different concepts. Breese, et al. do not disclose nor suggest the claim limitations of claims 2 and 33. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

As per claims 3 and 34, the Office Action states that Breese, et al. disclose limitations relating to the analyzing of documents. However, Breese, et al. do not disclose any analyzing of documents, hence these claims are novel and nonobvious. The Office Action states that claims 6 and 37 are anticipated by Breese, et al. These claims include additional limitations relating to probable user interest. As noted above, Breese, et al. disclose the probability that the user knows of a document, not that the user is interested in a document, let alone documents having multiple distinct media types. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

As per claims 8 and 39, the Office Action states that various limitations of the claims are disclosed in Breese, et al. However, these limitations are actually not disclosed by Breese, et al. In particular, Office Action states that the topic probability distribution is disclosed in column 6, lines 38-45. However, only knowledge probability is discussed there, not the probability that the user will have an interest in the topic. Similarly, the Office Action states that the product probability distribution is disclosed in column 6, lines 38-45. Note that Breese, et al. does not discuss products at all, hence this and all

other limitations of this claim that focus on products are not disclosed by Breese, et al. The Office Action states that the website probability distribution is disclosed in column 8, lines 1-27. However, these lines only disclose knowledge probability, not the probability that the user will have an interest in the website. The Office Action states that the cluster probability distribution is disclosed in column 9, lines 25-40. However, these lines only disclose knowledge probability, not the probability that the user is similar to other users. The Office Action states that a phrase model probability is disclosed in column 9, lines 25-40. However, these lines only disclose knowledge probability, not the probability that the user is interested in various phrases. The Office Action states that an information theory based measure representing mutual information between various phrases is disclosed in column 9, lines 25-40. However, these lines do not disclose anything related to mutual information, as required by the claim limitation. The Office Action states that an information theory based measure representing mutual information between various topics is disclosed in column 6, lines 38-45. However, these lines do not disclose anything related to mutual information, as required by the claim limitation. The Office Action states that an information theory based measure representing mutual information between various websites is disclosed in column 8, lines 1-27. However, these lines do not disclose anything related to mutual information, as required by the claim limitation. The Office Action states that an information theory based measure representing mutual information between various products is disclosed in column 8, lines 1-27. However, these lines do not disclose anything related to mutual information, as required by the claim limitation, nor do they suggest products. The Office Action states that an information theory based measure representing mutual information between various features of products in column 8, lines 1-27. However, these lines do not disclose anything related to mutual information, as required by the claim limitation, nor do they suggest products or the features of products. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

With respect to claims 9-10, and 40-41, note that Breese, et al. do not discuss nor suggest products. Therefore, Breese, et al. cannot anticipate, nor make obvious claims that include limitations to products.

With respect to claims 11-12, and 42-43, these claims include limitations to the posterior probability that a document is of interest to a user given a particular query. Column 8, lines 44-67 of Breese, et al. do not discuss nor make obvious such probabilities.

With respect to claims 14-15 and 45-46, Breese, et al. do not include any discussion nor suggestion of products. Because these claims include limitations directed to products, Breese, et al. do not anticipate, nor make obvious these claims.

With respect to claims 16-17 and 47-48, the cited lines (column 9, lines 25-40) refer to scores "associated with each entry in the list of search results." The claim limitations in 16 and 47 refer to clustering multiple users into clusters of similar users. And the claim limitations in 17 and 48 include limitations associated with the calculation of relative entropy values between User Models of multiple users. Breese, et al. discuss neither clusters nor entropy values. Therefore, Breese, et al. do not anticipate nor make obvious these claims.

As per claims 18 and 49, column 11 discloses estimates that a user knows of an item and columns 13-14 discuss scores relating to knowledge of a particular item. The claim limitations refer to calculated distances between the User Model and the User Models of users similar to the user. Breese, et al. do not discuss such calculated distances, hence Breese, et al. do not anticipate nor make obvious these claims.

With respect to claims 19 and 50, these claims include limitations relating to the selection of an expert user from among a group of users. Breese, et al. do not discuss the selection of an expert user, hence these claims are not anticipated nor made obvious by Breese, et al.

As per claims 20 and 51, Breese, et al. do not disclose the parsing of a document for hyperlinks as specified in the claims. Therefore Breese, et al. do not anticipate nor make obvious these claims.

With respect to claims 21 and 52, column 17, lines 6-25 make no mention of sending to a third party web server interest information derived from the User Model. Note that Breese, et al. do not discuss interest information but knowledge probabilities. As previously discussed these are very different from each other. Therefore, Breese, et al. do not anticipate nor make obvious these claims.

As per claims 22 and 53, column 9, lines 63-67 do include the amount of time a user has been on the Internet as a factor that can be used in generating knowledge probabilities. However, as used in Breese, et al., "the amount of time a user has been on the Internet" is used to indicate the user's experience with the Internet, not how long the user's interaction time is, as specified in the claims. Therefore Breese, et al. do not anticipate nor make obvious these claims.

As per claims 24 and 55, column 8, lines 15-60 of Breese, et al. disclose updating of a user database without the user taking any explicit action. The User Model modification requests in the claims are explicitly requested by the user. Breese, et al. do not disclose such a modification, therefore the claims are not anticipated nor made obvious by the cited reference.

With respect to claims 25 and 56, the claims involve a score derived from the estimated probability. The estimated probability is that of user interest in a document (as specified in claim 1). The cited portions of Breese, et al. discuss scores generated using knowledge probabilities, which as discussed previously, are very different. Therefore Breese, et al. do not anticipate nor make obvious the claims.

As per claims 26 and 57, column 5, lines 25-38 of Breese, et al. discuss information about a user. However, there is no discussion of a 3D map of a hyper linked document collection, nor the user's interest in each document, as specified in the claims. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

With respect to claims 27 and 58, column 8, lines 15-60 discuss the use of personal information. However, the claim specifies that the user temporarily uses a User Model that is built from a set of predetermined parameters of a profile selected by the user. Breese, et al. do not discuss anything like this, hence the claims are not anticipated nor made obvious.

As per claims 28 and 59, Breese, et al. do not disclose the use of parameters of a prototype user that is selected by the user. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

With respect to claims 29 and 60, because Breese, et al. do not discuss a prototype user, they cannot update the parameters of a prototype users. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

As per claims 30 and 61, Breese, et al. only refers to knowledge probabilities, not user interest in documents. In addition, column 16, lines 34-42 make no mention of identifying a set of users interested in a given document. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

As per claims 31 and 62, Breese, et al. includes no discussion as to calculating a range of interests in the document for the identified set of users. Therefore, Breese, et al. do not anticipate nor make obvious the claims.

### CONCLUSION

In view of the above comments, the applicants respectfully submit that this patent application is in condition for allowance. Early action to this end is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Dr. Ron Jacobs', written in a cursive style.

Dr. Ron Jacobs

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